Land-Tech
LANDFILL TECHNOLOGIES OF ARECIBO, LLC.

February 20, 2017.

Donald Frankel
Senior Counsel
Environmental Enforcement Section
Department of Justice
Suite 616
One Gateway Center
Newton, MA 02458
By email to donald.frankel@usdoj.gov and certified mail number 7015 3010 0001 9857 1923.

RE: CAA SEMIANNUAL REPORT
UNITED STATES V. LANDFILL TECHNOLOGIES OF ARECIBO, CORP.
CONSENT DECREE CIVIL NO. 3:14-CV-01438;
DOJ CASE NO. 90-5-2-1-09629.

Dear Mr. Frankel:

Pursuant to Section VI, CAA Injunctive Relief, of the Consent Decree Civil No. 3:14-cv-01438, Landfill Technologies of Arecibo, LLC[1] (LTA), submits the following information:

1. Calibrations of the equipment used to monitor data. *Exhibit 1.*

2. Quarterly Surface Scanning Report, July to September 2016. *Exhibit 2*

3. Quarterly Surface Scanning Report, October to December 2016. *Exhibit 3.*

[1] Previously, Landfill Technologies of Arecibo, Corp.

4. Monthly Well Monitoring Report, July to December 2016. *Exhibit 4.*

5. Start Up, Shut Down and Malfunction Report, July to December 2016. *Exhibit 5*

If additional information is required, please don't hesitate to contact LTA at your convince at 787-273-7639 or via email, Javier Vazquez, Esq. jvazquez@landfillpr.com; Maribelle Marrero, mmarrero@landfillpr.com.

Best Regards,

Javier J. Vázquez Bravo, ESQ.
Vice-president of Operations

Cc. United States Department of Justice,
Chief Environmental Enforcement Section
Certified mail number: 7015 3010 0001 9857 1930

EPA, CAA
Certified mail number: 7015 3010 9857 2074

EPA RCRA,
Carl Plössl; 7015 3010 0001 9857 2098

EPA ORC,
Carolina Jordan-Garcia, Esq.;
Certified mail number.: 7015 3010 0001 9857 2081

EQB,
Eng. Luis Sierra

PRLA,
Alberto L. Ramos.

Arecibo Municipality
Mayor

Exhibit 1

SERVICE REPORT

Thermo Environmental Instruments, Inc
27 Forge Parkway
Franklin, MA. 02038
Phone: 866-282-0430
Fax: 508-520-2800

RA#	DATE COMPLETED
RA00049878	2/29/2016 1:42 PM
CUSTOMER	**CONTACT PHONE**
Landfill Technologies Corp.	(787) 273-7639 x298
CONTACT	**CONTACT EMAIL**
Cynthia Otero	cotero@landfillpr.com
MODEL	**SERIAL NUMBER**
TVA1000	0115247987

REPORT SUBMITTED BY
Contact: Donald Andrade
Email: donald.andrade@thermofisher.com

SUBJECT: TVA1000 **REPAIR TYPE:** Time and Material **PRIORITY:** Standard

DESCRIPTION OF SERVICE REQUIRED: ANNUAL VERIFICATION & CALIBRATION, REQUIRED BY EPA.

CONTAMINATED/HAZARDOUS: No
DECONTAMINATION METHOD: n/a

ACCESSORIES RECEIVED: Cable; Case; Charger; Probe; Strap / Travel case, enhanced probe, telescoping probe, water trap, battery, charger, filter, shoulder strap, H2 tank, RS-232 cable & adapter, spare water trap filters, spare FID capsule, refill assembly, tool kit

PHYSICAL INSPECTION (inspected for damage, missing items, pm required, cleanliness, and accuracy)

- ✓ Compare unit to RA detail
- ✓ Labeling
- ✓ Warranty Label Intact:
- ✓ Last Service Date: Jan. 2015
- ✓ H2 Tank
- ✓ H2 Tank Expiration Date: April 2025
- ✓ Hardware
- ✓ Probe Cables and Connectors
- ✓ Battery Door Lock
- ✓ Battery Information: d/c: 11/04/14

RECEIVED CONDITION: Good / Shows normal wear and tear for age and application

CUSTOMER CAL DATA

Detector	Cal Zero Counts	Cal Span Counts	Span Concentration (ppm)	Response Factor
FID	6190	81864	500	DEFAULT

INSTRUMENT AS FOUND: Unit powers up with intermittent alarms and errors.

FLOWS AS FOUND

Sample Flow (ml/min)	FID Flow (ml/min)	H2 Pressure (psi)	H2 Flow (ml/min)
1143	483	11.2	14.3

PREVENTATIVE MAINTENANCE (replacement or maintenance of checked items below as required *may not be all inclusive*)

- ✓ O-rings
- ✓ Pump Assembly
- ✓ Filter
- ✓ Hardware

SERVICE REPORT

Thermo Environmental Instruments, Inc
27 Forge Parkway
Franklin, MA. 02038
Phone: 866-282-0430
Fax: 508-520-2800

REPAIR NOTES: Unit powered up with multiple alarms and error messages caused by malfunctioning microprocessor board- replaced. FID detector offset was out of adjustment- reset to specifications. Performed preventative maintenance and cleaning of unit as required. Replaced parts listed. Set all proper flows tested and calibrated. Unit operates to full factory specifications. Functionality of customer's spare FID capsule verified.

FLOWS AS LEFT

Sample Flow (ml/min)	FID Flow (ml/min)	H2 Pressure (psi)	H2 Flow (ml/min)
1217	415	11.6	13.6

PARTS AND LABOR:

510067-1	2.00	Valve- pump
510318-1	1.00	Cup filter
CR011SC	1.00	Diaphragm- pump
CR013BL	1.00	Microprocessor pcb
LBR-IH PORT TEI	3.00	Labor

TEST EQUIPMENT AND SOURCES USED: Fluke Digital Voltmeter, Brooks Flow Meter, Model 146 Dilution Calibrator, Methane Gas Standards

All measurement standards are calibrated at scheduled intervals by the National Institute of Standards and Technology (NIST), or against certified standards, which are traceable to the National Institute of Standards and Technology, formally the National Bureau of Standards (NBS). Calibration of customer equipment is performed with appropriate environmental controls, as required.

PASSED HYDROGEN LEAK TEST YES

INITIAL CALIBRATION

Detector	Cal Zero Counts	Cal Span Counts	Span Concentration (ppm)	Response Factor
FID	4124	116989	500	DEFAULT

DRIFT TEST

Detector	Hour 1 Reading (ppm)	Hour 4 Reading (ppm)	Delta (ppm)	Tolerance
FID	1.51	1.25	0.26	≤ 1 ppm Delta

H2 RUN TIME TEST

Starting H2 psi	Run Time	Tolerance
2000	12 hrs.	≥ 1 hour run time per 200 psi of H2

SERVICE REPORT

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FINAL CALIBRATION

Detector	Cal Zero Counts	Cal Span Counts	Span Concentration (ppm)	Response Factor
FID	3848	116513	500	DEFAULT

REPEATABILITY TEST

FID	1ST Check	2ND Check	3RD Check	Final Check	Tolerance
500 PPM	499	501	499	500	± 10%

CALIBRATION CONCENTRATION TEST

Detector	Calibration Gas	Concentration(ppm)	TVA actual reading (ppm)	Tolerance (ppm)
FID	Zero Air	0	-0.03	≤ 3
FID	Methane	100	101	± 25
FID	Methane	500	501	± 125
FID	Methane	10000	1.12%	±2500

PRE-BUTTON UP INSPECTION

- ✓ Tubing is secured and not crimped (where applicable).
- ✓ Serial Number/Voltage Labels intact and legible.
- ✓ Instrument cleaned.
- ✓ All hardware is secured. (Ex. Screws, connectors, tubing, etc.)
- ✓ Battery door lock tight
- ✓ Cables secured and Tie wrapped where applicable
- ✓ No loose debris within the instrument closure. (Screws, washers tubing, tywraps, etc.)
- ✓ Make sure TVA does not flame out when bumped.
- ✓ Remove sample line – TVA should **NOT** flame out. Leave off for 5 minutes minimum.
- ✓ Check battery voltage without charger being plugged in.
- ✓ Perform quick cal check with 10,000 ppm gas and insure spec. is met (90% of reading in 3.5 seconds up and 10% of reading in 20 seconds down)

FINAL QC CHECKLIST

- ✓ Serial Number/Voltage Labels intact and legible.
- ✓ Instrument cleaned.
- ✓ Service Report and Calibration Report created for unit
- ✓ All received customer accessories accounted for and clearly identified.
- ✓ Instrument turns on.
- ✓ Ignition test (TVA models).
- ✓ Calibration labels/Report with instrument.

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27 Forge Parkway
Franklin, MA. 02038
Phone: 866-282-0430
Fax: 508-520-2800

- ✓ Bill To/Ship to information properly indicated on CO.
- ✓ Quantities correct and complete on CO.

INSTRUMENT AS LEFT: TVA performs fully to manufacturer specifications

CERTIFICATION OF CALIBRATION

ISSUED BY: QED Environmental Systems, Inc. Services Facility

Date Of Calibration: July 22, 2016

Certificate Number: GM13655_8/30146

PJLA Calibration

No. 66916

Approved By Signatory

Bill Campbell

Bill Campbell
Laboratory Inspection

LANDTEC

QED Environmental Systems, Inc. Services Facility,
2355 Bishop Circle West, Dexter, MI 48130
www.qedenv.com

Customer: ***Diamond Systems LLC***

55 East Broad Street
Titusville, FL 32796
USA

Description: Gas Analyser ***Model:*** GEM2000

Serial Number: GM13655

Accredited Results:

Methane (CH4)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
5.0	5.0	0.41
15.0	15.0	0.65
50.0	49.4	1.05

Carbon Dioxide (CO2)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
5.0	4.8	0.43
15.0	14.7	0.71
50.0	49.9	1.20

Oxygen (O2)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
20.7	20.7	0.25

Gas cylinders are traceable and details can be provided if requested.

CH4, CO2 readings recorded at: 33.2 °C/91.8 °F Barometric Pressure: 29.00 "Hg

O2 readings recorded at: 24.5 °C/76.1 °F

Method of Test: The analyzer is calibrated in a temperature controlled chamber using reference gases. All analyzers are calibrated in accordance with our procedure ISP-17 using high purity grade gas.

All calibrations are performed in accordance with ISO 17025 at LANDTEC, an ISO 17025:2005 – accredited service facility through PJLA.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with NIST requirements.

CERTIFICATION OF CALIBRATION

PJLA ACCREDITED CALIBRATION LABORATORY NO. 66916

Certificate Number
GM13655_8/30146

Non Accredited results:

Pressure Transducers (inches of water column)					
Transducer	**Certified (Low)**	**Reading (Low)**	**Certified (High)**	**Reading (High)**	**Accuracy**
Static	0"	0.0"	40"	39.7"	2.0"
Differential	0"	0.0"	4"	3.99"	0.7"

Barometer (mbar)	
Reference	**Instrument Reading**
0982 mbar / 29.00 "Hg	0981 mbar / 28.97 "Hg

As received gas check readings:

Methane (CH4)	
Certified Gas (%)	**Instrument Reading (%)**
5.0	6.1
15.0	16.5
50.0	51.3

Carbon Dioxide (CO2)	
Certified Gas (%)	**Instrument Reading (%)**
5.0	5.2
15.0	15.5
50.0	50.5

Oxygen (O2)	
Certified Gas (%)	**Instrument Reading (%)**
20.7	0.0

As received Gas readings recorded at: 33.2 °C/91.8 °F
As received Barometric Pressure recorded at: 24.5 °C/76.1 °F

End of Certificate

Exhibit 2

LANDFILL TECHNOLOGIES OF ARECIBO, LLC

Surface Methane Gas Monitoring at the Arecibo Municipal Solid Waste Landfill

Quarterly Event Report

Prepared by:
Landfill Technologies of Arecibo, LLC.

July to September 2016

Bo. Mamey, Carretera 189 km. 9.0, Gurabo, PR 00778 • PO Box 1322 Gurabo, Puerto Rico 00778 • Tel. (787) 273-7639 • Fax (787) 687-0337

Table of Contents

Introduction

Landfill Technologies of Arecibo, LLC has conducted on July, August, September of 2016 the surface and perimeter methane gas monitoring event at the Arecibo Municipal Solid Waste Landfill as part of the operation of the Gas Collection and Control System (GCCS). This event is also performed as part of the state and federal agency's for environment requirements for solid waste landfills.

The surface methane gas monitoring was performed by Landfill Technologies of Arecibo, LLC (LTA) personnel during August 2016 according to the following rule of the "Enmiendas al Reglamento para el Control de la Contaminación Atmosférica de la Junta de Calidad Ambiental para cumplir con los requisitos para Planes Estatales de la Sección 111 (d) de la Ley Federal de Aire Limpio para Implantar las Guías de Emisiones para Sistemas de Relleno Sanitario". This monitoring consisted of obtaining readings with a portable instrument (TVA1000B) surface detector, please refer to Appendix A for specifications of instrument) from landfill surface, groundwater monitoring wells, gas collection system and ambient monitoring.

Objectives

The objective of this event (the surface methane gas monitoring) is to ensure that the concentration of methane (CH_4) generated by the landfill does not exceed the lower explosive limit (LEL) of methane at the facility. The LEL for this monitoring is 500 ppm (parts per million) or 25%. If the personnel of LTA detect any release that exceeds the LEL it will require notification to the owner or operator and an expansion of the monitoring program to determine the vertical and horizontal extent of the release.

Description

The surface methane operational standards consist of monitoring the surface emissions of methane along the entire perimeter of the collection area and along a serpentine patter 30 meter apart (or site specific established spacing) for each collection area using a portable surface detector (TVA1000B – Appendix A).

Sampling Locations and Results

Landfill Technologies of Arecibo, LLC has created samplings locations at the Arecibo Municipal Solid Waste Landfill site where the surface emission readings have been collected. LTA presents the sampling locations at Appendix B. These readings were collected with the portable surface detector (TVA1000B) and are presented in Appendix C.

Conclusions and Recommendations

The surface emissions readings were performed for July, August and September of 2016 monitoring event from the Arecibo Municipal Solid Waste Landfill. This monitoring is part of conclusions quarterly monitoring program aimed to detect abnormal gas release at the landfill. During this event of monitoring the active area (area where the waste was deposited) was located at Southeast side of the landfill. The LTA personnel inspect the area and there were no cracks that present a hazard to the surface.

Also the results of the surface emission monitoring for July, August and September of 2016 events by LTA personnel indicates that during that period no sampling point monitored exceed the LEL for methane which means that the landfill location does not represent a high risk of explosiveness.

APPENDIX A

Thermo Scientific Portable Toxic Analyzer – TVA1000B
Surface Emission Monitor Specifications

Thermo Scientific TVA1000B Toxic Vapor Analyzer

The Only Portable Intrinsically Safe Dual PID/FID Analyzer

Thermo SCIENTIFIC

Portable Toxic Vapor Analyzer

The Thermo Scientific TVA1000B is the only over-the-shoulder portable vapor analyzer that offers both PID (Photo Ionization Detection) and FID (Flame Ionization Detection) in a single, easy-to-use instrument. The ability to utilize both technologies in this field proven instrument provides benefits in reduced weight and a single user interface. The user can easily monitor and log inorganic and organic vapors simultaneously.

FID Detection

Users can measure a wide variety of organic vapors over an impressive dynamic range (0-50,000 ppm), monitoring some compounds that the PID will not detect. The flame ionization detector operates by breaking hydrocarbon bonds and is not limited by a low ionization potential of the molecule.

Simultaneous FID/PID Detection

No other instrument offers both Photo Ionization and Flame Ionization Detection operating simultaneously in a single portable vapor analyzer. Dual detection eliminates the time, expense and trouble of purchasing and maintaining two separate analyzers.

With PID detection, the user has not only the ability to monitor for organic compounds, but also can detect many inorganic compounds. Some compounds detected by PID and not FID are ammonia, carbon disulfide, carbon tetrachloride, formaldehyde, and hydrogen sulfide. The PID also has the advantage of not requiring fuel or air to operate. In anaerobic environments, the TVA1000B PID can be used.

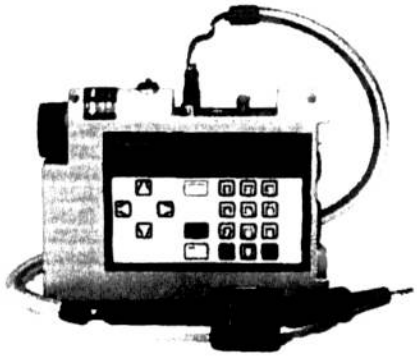
Key Features

- Simultaneous FID/PID or Single FID detector(s)
- Portable and lightweight
- Multiple response factors and curves
- Multi-point calibration
- On-board datalogging
- 8 hour battery life

Probe Options

Standard Probe
Display measurement values on a 4-character LCD, with measurement units displayed on %, ppm, or ppb. Additionally, a bar graph indicator provides an indication of concentration level Function keys allow selection of analyzer functions.

Enhanced Probe
Originally designed for Fugitive Emissions monitoring, the enhanced probe has a larger display area than the basic probe. This provides a display of up to 6 lines x 20 characters, plus a double height concentration value. It displays all the same information as the standard probe and has menu-driven access to many of the analyzer functions, allowing them to be easily initiated and/or changed at the probe.



TVA1000B
Data Manager Accessory: Route Management Probe

Powerful field capabilities
The TVA1000B Data Manager allows users to modify or create route data in the field, eliminating the need for manual recording of data. This helps you comply with the electronic data storage requirements within most consent decrees. The probe has a highly visible 360 degree LED with a pulsed rate linked to concentration.

The DataManager provides access to all of the features previously available only through the sidepack. Users can also easily search and navigate between tags in a route by simply entering the desired tag identifier.

Flexibility and control
The DataManager allows control of how data is viewed and accessed in the field. This allows the user to customize the view to best meet the monitoring needs at your facility, as each route may have different fields and screen displays. Fields may be designated as non-editable to enhance data integrity and database security.

An optional comment field allows the user to make electronic notes about each tag monitored. An alpha-numeric keypad makes data entry a snap.

Key Features for the DataManager

- Custom field labels for more clearly identified route information
- Definable screen layouts optimize user efficiency
- Pick lists lead to consistent data entry and minimize chance of data entry errors
- One button selections to access most commonly used functions
- New sample probe provides 360 degree visual indicator of concentration level
- Cable management system eliminates snagging sample line and electronic cable
- Existing TVA1000 units may be upgraded
- Enhanced filtering system removes dirt and water more efficiently.

ThermoConnect Software

ThermoConnect enables users of the TVA1000B to transfer, display, analyze, and configure data from the instrument using a computer. ThermoConnect is Windows® based and facilitates the importing of data into other Windows® based applications making it easier to retrieve logged data.

Added capability to maximize the TVA DataManager's features

ThermoConnect has been updated with a powerful new utility to create new route database template files. This utility allows you to easily build your own route database and design the screen appearance through a four-step process. Also, any existing route files in the old file format are still recognized by the TVA and may be upgraded to the new format.

Windows® is a registered trademark of Microsoft Coporation

Applications

Fugitive Emissions Monitoring
The unique dual detector FID/PID design can handle a wide range of compound vapors present at processing plants. The TVA1000B permits monitoring at lower ppm levels.

Emergency Response
For reliable measurements of hazardous spills or emissions, the TVA1000B responds quickly in an emergency. The ability to quickly detect the presence of "hot spots" is key to locating the source of the hazard.

Hazardous Waste Site Evaluation
The TVA1000B allows quick and easy identification of the hazard location and quantifies the level of contamination.

Underground Storage Tanks
The TVA1000B is a primary tool for determining if a UST is leaking and the extent of the contamination.

Industrial Hygiene
The TVA1000B can help you maximize the effectiveness of your plant ventilation system, and identifies trouble spots. Use it to survey ambient vapor levels in specific breathing zones or in general plant environments, and log for furthur follow-up action.

Natural Gas Leak Detection
The TVA1000B enables quick and easy detection of natural gas leaks.

The Thermo Scientific **TVA1000B** is a benchmark for experience and reliability in Fugitive Emissions Monitoring

Thermo Scientific TVA1000B Specifications

Safety certifications	FM (Class 1, Div. 1, Groups A,B,C&D Hazardous Location, Temp. Class T4)
Datalogging	Onboard
Readout	Bar graph & 4-digit LCD
Dynamic Range	0.5-2,000 ppm (PID) isobutylene; 0.5-50,000 ppm (FID) methane
Linear Range	0.5-500 ppm (PID) isobutylene; 0.5-10,000 ppm (FID) methane
Response Time	3.5 seconds
Minimum Detectable Limit	100 ppb benzene (PID); 300 ppb hexane (FID) (laboratory conditions)
Alarms	Low, high, STEL
Sample Flow Rate	1,000 cc/min nominal
Power	Rechargeable NiCd Battery
Logging Capacity	900-18,000 points mode specific
Temperature Range	0-40°C (32°F - 104°F)
Fuel	None required (PID); 99.995% hydrogen (FID)
Portable Operation Time	8 hours (with reference operating conditions)
Approximate Mass	5.8 kg (13 pounds)
Nominal Dimensions	13.5 x 10.3 x 3.2 inches (343 x 262 x 81 mm)
Analog Output	0-2V dc (non-calibrated)
Repeatability	+/- 1% (PID); +/- 2% (FID)
Autoranging	Yes
Diagnostics	Yes

Other Available Options:

Carrying Case	P/N CR012XL
Charcoal Filter	P/N 510095-1
FID Calibration Kit	P/N CR009UY
PID/FID Calibration Kit	P/N CR012UH

Thermo Scientific products represent a broad range of high end analytical instruments, chemistry and consumable supplies, laboratory equipment, software and services that enable integrated laboratory workflow solutions. Thermo Scientific is the new name for a trusted brand – Thermo Electron – that the world's most renowned researchers, clinicians and scientists already count on to solve their analytical challenges. The brand is strengthened by the additions equipment, consumables and reagents acquired from Fisher Scientific.

TÜV MANAGEMENT SERVICE ISO 9001

Lit_TVAFID_0707

Environmental Instruments
First Responder Industrial Hygiene Products
www.thermo.com/eh

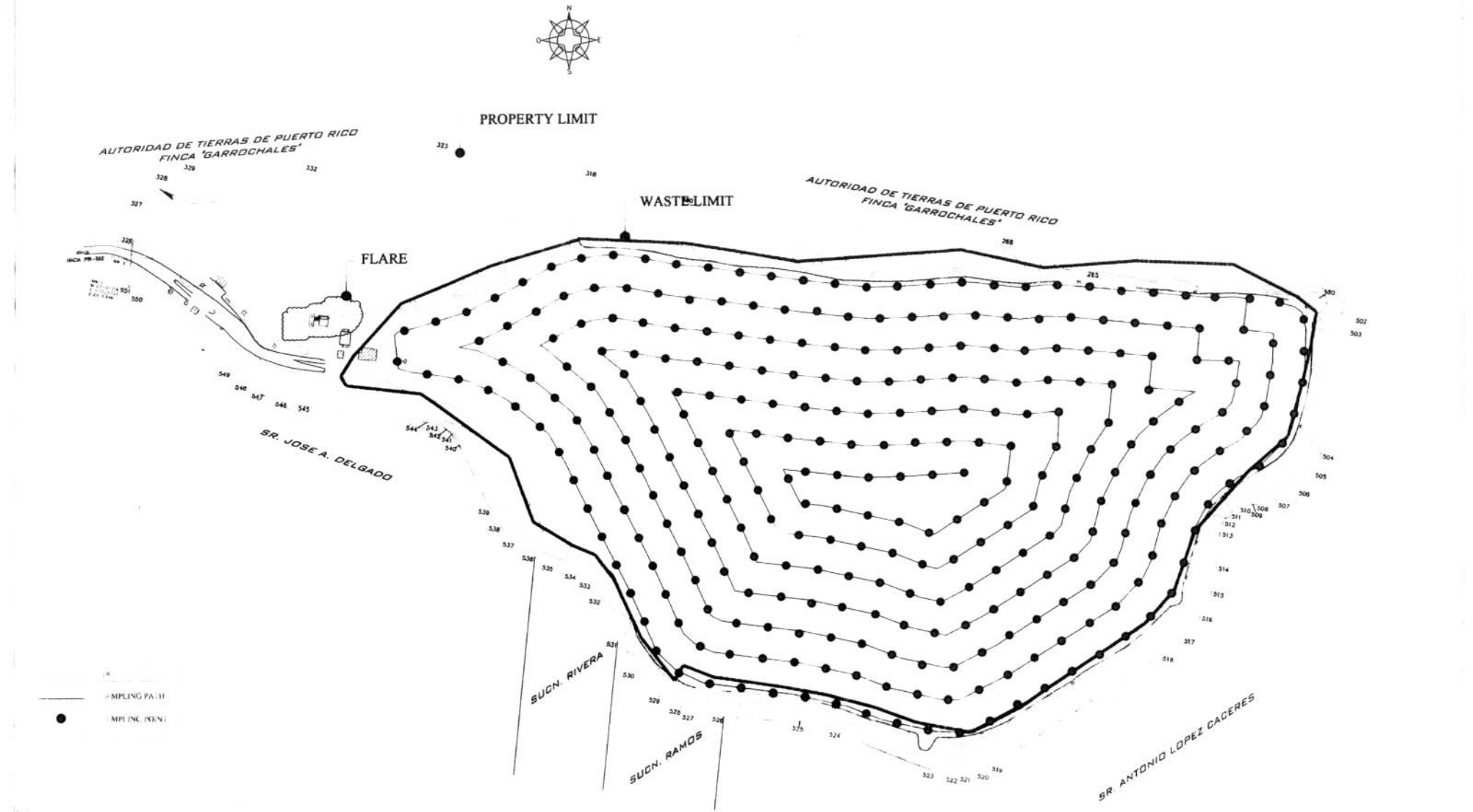
27 Forge Parkway
Franklin MA
02038

1 866 282 0430
1 508 520 1460 fax

Thermo SCIENTIFIC

APPENDIX B

Sampling Points Locations from Arecibo Municipal Landfill



REVISION

ARECIBO MUNICIPAL SOLID WASTE LANDFILL
ARECIBO, P.R

LANDFILL TECHNOLOGY OF ARECIBO, CORP.

SURFACE EMISSIONS MONITORING
SAMPLING PATH

DRAWING: S-100
SCALE:
DATE: 01/2010

APPENDIX C

Surface Emission Readings

LANDFILL TECHNOLOGIES CORP.

SURFACE METHANE GAS MONITORING ARECIBO LANDFILL

AUGUST 2016

TAG	DETECTOR	CONCENTRATION	CONCENTRATION UNITS	TYPE
UPWIND	FID	11.86	PPM	FE
DOWNWIND	FID	0.31	PPM	FE
POINT1	FID	0.9	PPM	FE
POINT2	FID	0.59	PPM	FE
POINT3	FID	0.78	PPM	FE
POINT4	FID	1.26	PPM	FE
POINT5	FID	50.6	PPM	FE
POINT6	FID	42.37	PPM	FE
POINT7	FID	1.33	PPM	FE
POINT8	FID	0.58	PPM	FE
POINT9	FID	0.43	PPM	FE
POINT10	FID	0.45	PPM	FE
POINT11	FID	0.13	PPM	FE
POINT12	FID	0.67	PPM	FE
POINT13	FID	37.65	PPM	FE
POINT14	FID	31.4	PPM	FE
POINT15	FID	45.54	PPM	FE
POINT16	FID	53.29	PPM	FE
POINT17	FID	43.27	PPM	FE
POINT18	FID	21.96	PPM	FE
POINT19	FID	25.99	PPM	FE
POINT20	FID	8.13	PPM	FE
POINT21	FID	3.2	PPM	FE
POINT22	FID	1.08	PPM	FE
POINT23	FID	61.21	PPM	FE
POINT24	FID	3.96	PPM	FE
POINT25	FID	0.85	PPM	FE
POINT26	FID	0.54	PPM	FE
POINT27	FID	5.21	PPM	FE
POINT28	FID	6.21	PPM	FE
POINT29	FID	20.37	PPM	FE
POINT30	FID	37.13	PPM	FE
POINT31	FID	24.89	PPM	FE
POINT32	FID	34.49	PPM	FE
POINT33	FID	12.86	PPM	FE
POINT34	FID	17.96	PPM	FE
POINT35	FID	14.56	PPM	FE
POINT36	FID	10.58	PPM	FE

LANDFILL TECHNOLOGIES CORP.

SURFACE METHANE GAS MONITORING ARECIBO LANDFILL

AUGUST 2016

TAG	DETECTOR	CONCENTRATION	CONCENTRATION UNITS	TYPE
POINT37	FID	7.94	PPM	FE
POINT38	FID	7.39	PPM	FE
POINT39	FID	5.48	PPM	FE
POINT40	FID	2.61	PPM	FE
POINT41	FID	1.19	PPM	FE
POINT42	FID	1.72	PPM	FE
POINT43	FID	5.18	PPM	FE
POINT44	FID	24.59	PPM	FE
POINT45	FID	17.09	PPM	FE
POINT46	FID	14.72	PPM	FE
POINT47	FID	21.48	PPM	FE
POINT48	FID	17.23	PPM	FE
POINT49	FID	8.34	PPM	FE
POINT50	FID	15.9	PPM	FE
POINT51	FID	19.33	PPM	FE
POINT52	FID	30.49	PPM	FE
POINT53	FID	42.13	PPM	FE
POINT54	FID	44.42	PPM	FE
POINT55	FID	45.07	PPM	FE
POINT56	FID	49.87	PPM	FE
POINT57	FID	49.44	PPM	FE
POINT58	FID	48.98	PPM	FE
POINT59	FID	45.27	PPM	FE
POINT60	FID	55.57	PPM	FE
POINT61	FID	52.88	PPM	FE
POINT62	FID	52.08	PPM	FE
POINT63	FID	47.97	PPM	FE
POINT64	FID	5.2	PPM	FE
POINT65	FID	7.96	PPM	FE
POINT66	FID	2.02	PPM	FE
POINT67	FID	4.69	PPM	FE
POINT68	FID	6.02	PPM	FE
POINT69	FID	1.45	PPM	FE
POINT70	FID	1.6	PPM	FE
POINT71	FID	4.27	PPM	FE
POINT72	FID	5.47	PPM	FE
POINT73	FID	5.47	PPM	FE
POINT74	FID	4.38	PPM	FE

LANDFILL TECHNOLOGIES CORP.

SURFACE METHANE GAS MONITORING ARECIBO LANDFILL

AUGUST 2016

TAG	DETECTOR	CONCENTRATION	CONCENTRATION UNITS	TYPE
POINT75	FID	4.5	PPM	FE
POINT76	FID	4.61	PPM	FE
POINT77	FID	4.46	PPM	FE
POINT78	FID	4.42	PPM	FE
POINT79	FID	7.57	PPM	FE
POINT80	FID	4.47	PPM	FE
POINT81	FID	4.4	PPM	FE
POINT82	FID	4.32	PPM	FE
POINT83	FID	4.36	PPM	FE
POINT84	FID	4.28	PPM	FE
POINT85	FID	4.27	PPM	FE
POINT86	FID	4.44	PPM	FE
POINT87	FID	4.42	PPM	FE
POINT88	FID	4.4	PPM	FE
POINT89	FID	4.36	PPM	FE
POINT90	FID	4.34	PPM	FE
POINT91	FID	4.33	PPM	FE
POINT92	FID	4.31	PPM	FE
POINT93	FID	4.37	PPM	FE
POINT94	FID	4.29	PPM	FE
POINT95	FID	1.81	PPM	FE
POINT96	FID	2.17	PPM	FE
POINT97	FID	2.2	PPM	FE
POINT98	FID	2.09	PPM	FE
POINT99	FID	2.27	PPM	FE
POINT100	FID	2.48	PPM	FE
POINT101	FID	2.85	PPM	FE
POINT102	FID	2.04	PPM	FE
POINT103	FID	2.09	PPM	FE
POINT104	FID	2.1	PPM	FE
POINT105	FID	2.8	PPM	FE
POINT106	FID	2.62	PPM	FE
POINT107	FID	2.33	PPM	FE
POINT108	FID	2.83	PPM	FE
POINT109	FID	2.33	PPM	FE
POINT110	FID	24.4	PPM	FE
POINT111	FID	16.67	PPM	FE
POINT112	FID	25.66	PPM	FE

LANDFILL TECHNOLOGIES CORP.

SURFACE METHANE GAS MONITORING ARECIBO LANDFILL

AUGUST 2016

TAG	DETECTOR	CONCENTRATION	CONCENTRATION UNITS	TYPE
POINT113	FID	29.79	PPM	FE
POINT114	FID	27.64	PPM	FE
POINT115	FID	6.58	PPM	FE
POINT116	FID	55.01	PPM	FE
POINT117	FID	62.2	PPM	FE
POINT118	FID	5.24	PPM	FE
POINT119	FID	2.27	PPM	FE
POINT120	FID	2.14	PPM	FE
POINT121	FID	23.43	PPM	FE
POINT122	FID	4.35	PPM	FE
POINT123	FID	7.47	PPM	FE
POINT124	FID	473.01	PPM	FE
POINT125	FID	8.58	PPM	FE
POINT126	FID	26.3	PPM	FE
POINT127	FID	237.01	PPM	FE
POINT128	FID	32.41	PPM	FE
POINT129	FID	25.36	PPM	FE
POINT130	FID	80.8	PPM	FE
POINT131	FID	27.46	PPM	FE
POINT132	FID	13.41	PPM	FE
POINT133	FID	10.28	PPM	FE
POINT134	FID	11.46	PPM	FE

Exhibit 3

Land-Tech

LANDFILL TECHNOLOGIES OF ARECIBO, LLC

Surface Methane Gas Monitoring at the Arecibo Municipal Solid Waste Landfill

Quarterly Event Report

Prepared by:
Landfill Technologies of Arecibo, LLC.

October to December 2016

Bo. Mamey, Carretera 189 km. 9.0, Gurabo, PR 00778 • PO Box 1322 Gurabo, Puerto Rico 00778 • Tel. (787) 273-7639 • Fax (787) 687-0337

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Introduction

Landfill Technologies of Arecibo, LLC has conducted on Octber, November and December of 2016 the surface and perimeter methane gas monitoring event at the Arecibo Municipal Solid Waste Landfill as part of the operation of the Gas Collection and Control System (GCCS). This event is also performed as part of the state and federal agency's for environment requirements for solid waste landfills.

The surface methane gas monitoring was performed by Landfill Technologies of Arecibo, LLC (LTA) personnel during November 2016 according to the following rule of the "Enmiendas al Reglamento para el Control de la Contaminación Atmosférica de la Junta de Calidad Ambiental para cumplir con los requisitos para Planes Estatales de la Sección 111 (d) de la Ley Federal de Aire Limpio para Implantar las Guías de Emisiones para Sistemas de Relleno Sanitario". This monitoring consisted of obtaining readings with a portable instrument (TVA1000B) surface detector, please refer to Appendix A for specifications of instrument) from landfill surface, groundwater monitoring wells, gas collection system and ambient monitoring.

Objectives

The objective of this event (the surface methane gas monitoring) is to ensure that the concentration of methane (CH_4) generated by the landfill does not exceed the lower explosive limit (LEL) of methane at the facility. The LEL for this monitoring is 500 ppm (parts per million) or 25%. If the personnel of LTA detect any release that exceeds the LEL it will require notification to the owner or operator and an expansion of the monitoring program to determine the vertical and horizontal extent of the release.

Description

The surface methane operational standards consist of monitoring the surface emissions of methane along the entire perimeter of the collection area and along a serpentine patter 30 meter apart (or site specific established spacing) for each collection area using a portable surface detector (TVA1000B – Appendix A).

Sampling Locations and Results

Landfill Technologies of Arecibo, LLC has created samplings locations at the Arecibo Municipal Solid Waste Landfill site where the surface emission readings have been collected. LTA presents the sampling locations at Appendix B. These readings were collected with the portable surface detector (TVA1000B) and are presented in Appendix C.

Conclusions and Recommendations

The surface emissions readings were performed for October, November and December of 2016 monitoring event from the Arecibo Municipal Solid Waste Landfill. This monitoring is part of conclusions quarterly monitoring program aimed to detect abnormal gas release at the landfill. During this event of monitoring the active area (area where the waste was deposited) was located at South side of the landfill. The LTA personnel inspect the area and there were no cracks that present a hazard to the surface.

Also the results of the surface emission monitoring for October, November and December of 2016 events by LTA personnel indicates that during that period no sampling point monitored exceed the LEL for methane which means that the landfill location does not represent a high risk of explosiveness.

APPENDIX A

Thermo Scientific Portable Toxic Analyzer – TVA1000B
Surface Emission Monitor Specifications